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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,855	08/26/2003	Paul Rudolf	121306.00002	8904

7590 11/22/2006  
Michael G. Cameron  
Jackson Walker, LLP.  
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Richardson, TX 75080

EXAMINER

HIRL, JOSEPH P

ART UNIT	PAPER NUMBER
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2129

DATE MAILED: 11/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/648,855	<b>Applicant(s)</b> RUDOLF, PAUL	
	<b>Examiner</b> Joseph P. Hirl	<b>Art Unit</b> 2129	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-78 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This Office Action is in response to an AMENDMENT entered September 26, 2006 for the patent application 10/648855 filed on August 26, 2003.
2. The First Office Action of May 26, 2006 is fully incorporated into this Final Office Action by reference.

### ***Status of Claims***

3. Claims 1-78 are pending.

### ***Abstract Objection***

4. The abstract contains reference elements but no reference figure. The reference elements typically are required in a PCT filing but are not appropriate for the national stage or US filing. Such reference elements must be removed.

### ***Inventor Objection***

5. The specification under the section entitled "Brief Summary of the Invention" @ page 19, lines 25-27 and page 20, lines 1-2 cites the following:

Use of Kirchhoff wave equation: The present invention makes use of the Kirchhoff wave equation in the manner described by the inventor in "Computer modeling wave propagation with a variation of the Helmholtz-Kirchhoff relation," Applied Optics, Vol 29, No. 7, 1 March 1990, to interpret the data within binary files on a digital computer as the discretized values of complex wave fields.

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This article is prior art to this invention and identifies Jeffrey J. Tollett and Rebecca R.

McGowan as equal contributors. The prior art in the abstract states:

We have employed a variation of the Helmholtz-Kirchhoff equation to computer model a wide range of diffracting systems.

On this bases, Tollett and McGowan must be identified as inventors on the instant application.

### ***Specification Objection***

6. The specification @ page 19, lines 14-17 cites the following:

With an appropriate choice of an invertible association function that displays the distributive property over addition, the present invention is shown to avoid erroneous retrievals of stored data, a crucial capability for any associative memory system

The specification @ page 34, lines 22-24 cites the following:

The associative memory and device disclosed herein is able to define the association of two or more inputs as the forming of some invertible mathematical relation between them.

In the specification, pages 35-107, the term "invertible" is not further recited. Since the applicant references "some invertible mathematical relation" and acknowledges the requirement to make an "appropriate choice" is crucial to the invention's operation but does not disclose the how of identifying such invertible mathematical relation, it can only be concluded that such efforts will require undue experimentation on the part of one of ordinary skill in the art ... if such invertible mathematical relation can be found at all. The specification is objected to as having no utility since the appropriate disclosure has not been made.

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7. The specification @ page 36, line 6, (also @ page 40, lines 19-20, page 65, lines 24-25) cites the following:

... $\alpha_m$  is an arbitrary weighting factor for the  $m^{\text{th}}$  association.

If  $\alpha_m$  is zero, C, the operator of equation 5 will be zero, If  $\alpha_m$  is either  $+\infty$  or  $-\infty$ , the operator C is undefined. Hence, the invention does not work and has no utility.

8. The specification @ page 77, lines 26-27 cites the following:

In this fashion, the present invention allows for a completely general and arbitrary set of responses to identification.

This effectively states that the invention accomplishes nothing and has no utility since the output is independent of the input ... the output is arbitrary ... whatever you want.

### ***Claim Rejections - 35 USC § 101***

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-78 are rejected under 35 U.S.C. §101 for nonstatutory subject matter. The computer system must set forth a practical application of §101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application. A solution transforms the input information, adapted to propagate the wave-modeled input, create one of a plurality of associations, store arbitrary linear

combinations, transform the prompt, input information comprising physical or electronic stimuli, assign phase information are examples that are useless in a real world situation.

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather that the final result achieved by the claimed invention is useful, tangible and concrete. If the claim is directed to a practical application of the §101 judicial exceptions producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S. C. §101.

The phrases "accepting a set of or plurality of sets of input information," "input buffer being further adapted to propagate the wave-modeled input data" and "cortex being further adapted to associate the desired sets of wave-modeled input data through an invertible mathematical function or operation" are not clear in its purpose or scope.

The invention must be for a practical application and either:

- 1). specify transforming (physical thing – article) or
- 2). have the Final Result (not the steps) achieve or produce a  
useful (specific, substantial and credible),  
concrete (substantially repeatable / non unpredictable), and  
tangible (real world / non abstract) result.

(tangibility is the opposite of abstractness).

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended, and if the specification discloses a practical application but

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the claim is broader than the disclosure such that it does not require the practical application, then the claim must be amended.

Claims that, search for and receive data, transport the information, act as recording structures, and transform the prompt are not statutory.

10. Claims 1-78 are rejected under 35 U.S.C. §101 for nonstatutory subject matter. The specification @ page 37 cites the following definition of "wave:"

A wave is represented mathematically as a complex function, a function defined at each point by a magnitude such as brightness, loudness or amplitude, and a phase, representing some part of the wave, such as a crest, trough, node etc. Waves are distributed phenomena. Even when they are confined, they are defined on the boundaries and everywhere within. To be complete and unique, information must be impressed on the wavefront in both amplitude and phase.

The title of the invention is: Associative Memory Device and Method based on Wave Propagation. Waves are synonymous with signals and signals are non statutory.

Applicant is encouraged to review the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility in general and specifically pages 55-57.

11. Claims 1-78 are rejected under 35 U.S.C. § 101 for nonstatutory subject matter. The claims 1-78 are generally broad and all encompassing, having the effect of attempting to patent the mathematical formula for wave propagation. Consequently, preemption is established that is subject to rejection under the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility pages 35-36.

12. Claims 1-78 are rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. As indicated in ¶¶ 6-8 above, the claimed invention is undefined, accomplishes nothing if  $C = 0$ , is missing a major step regarding the concept of

inevitableness as admitted by the applicant in the specification and the output is independent of the input.

***Claim Rejections - 35 USC § 112***

13. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

14. Claims 1-78 are rejected under 35 USC 112, first paragraph because current case law (and accordingly, the MPEP) require such a rejection if a 101 rejection is given because when Applicant has not in fact disclosed the practical application for the invention, as a matter of law there is no way Applicant could have disclosed how to practice the undisclosed practical application. This is how the MPEP puts it:

("The how to use prong of section 112 **incorporates as a matter of law** the requirement of 35U.S.C. 101 that the specification disclose as a matter of fact a practical utility for the invention.... If the application fails as a matter of fact to satisfy 35 U.S.C. 101, then the application also fails as a matter of law to enable one of ordinary skill in the art to use the invention under 35 U.S.C. § 112."; In re Kirk, '376 F.2d 936, 942, 153 USPQ 48, 53 (CCPA 1967) ("Necessarily, compliance with § 112 requires a description of how to use presently useful inventions, **otherwise an applicant would anomalously be required to teach how to use a useless invention.**"). See, MPEP 21107.01 (IV), quoting In re Kirk (emphasis added).

Therefore, claims 1-78 are rejected on this basis.

15. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

16. Claims 1-78 are rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. While the term "arbitrary" has been removed from the claim set, under a broad interpretation of the claim set and in view of the specification, the term "arbitrary" is still applicable in at least in the manner initially used by the Applicant. Such usage of the term reduces the subject claims to a state of being indefinite. Arbitrary linear combinations can be anything under any conditions which consequently carries no rational meaning.

### ***Response to Arguments***

17. The objection to the abstract remains.
18. Applicant's arguments filed on September 26, 2006 related to Claims 1-78 have been fully considered but are not persuasive.

In reference to Applicant's argument:

The Examiner asserts that a statement in a prior art reference requires correction of inventorship. The Applicant disagrees. As noted by the Federal Circuit, "a long line of decisions in this court holds that a person is a joint inventor only if he contributes to the conception of the claimed invention." *Eli Lilly and Co. v. Aradigm Corp.*, 376 F.3d 1352, 1359 (Fed. Cir. 2004) (emphasis added). The statement relied on by the Examiner at best suggests that others may have employed a variation of the Helmholtz-Kirchhoff equation to computer model a wide range of diffracting systems, but do not even establish that employing a variation of the Helmholtz-Kirchhoff equation to computer model a wide range of diffracting systems is any way related to the claimed invention, which is drawn to associative memory devices and a method of autonomous pattern recognition. As such, nothing in the cited passage evidences that the named persons contributed to the conception of the claimed invention.

Examiner's response:

Applicant is invited to visit page 86, lines 13-15 of the specification where the applicant states: "Instead, wave propagation is modeled numerically through computation using a variation of the Helmholtz-Kirchhoff Equation, as described herein." The "variation of the Helmholtz-Kirchhoff Equation" forms the conceptual basis for the

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embodiment utilizing software emulation of wave propagation. First Office Action stands.

In reference to Applicant's argument:

In regards to the objections to the specification, M.P.E.P. 2107.02 states that the "claimed invention is the focus of the assessment of whether an applicant has satisfied the utility requirement. Each claim (i.e. each "invention"), therefore, must be evaluated on its own merits for compliance with all statutory requirements." (Emphasis added). As no nexus has been shown between the alleged defects in the specification and the claimed inventions, the objection is improper.

Examiner's response:

37 CFR 1.71(a) states:

The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same.

Applicant has not responded to the Examiner's objections. First Office Action stands.

In reference to Applicant's argument:

In regards to the claim rejections under 35 U.S.C. 101, the guidance of M.P.E.P. 2107.02 is again invoked, as such rejections require evaluation of each claim on its own merits. The rejections in the Office action under 35 U.S.C. 101 are not based on an analysis of the invention as a whole, but only on selected excerpts from selected claims. The claimed invention as a whole for each and every claim must be considered. Consider *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1357 (Fed. Cir. 1999), where the Federal Circuit explained that:

The State Street formulation, that a mathematical algorithm may be an integral part of patentable subject matter such as a machine or process if the claimed invention as a whole is applied in a "useful" manner, follows the approach taken by this court en banc in *re Alappat*, 33 F.3d 1526, 31 USPQ2d 1545 (Fed. Cir. 1994). In *Alappat*, we set out our understanding of the Supreme Court's limitations on the patentability of mathematical subject matter and concluded that: [The Court] never intended to create an overly broad, fourth category of mathematical subject matter excluded from §101. Rather, at the core of the Court's analysis . . . lies an attempt by the Court to explain a rather straightforward concept, namely, that certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas until reduced to some type of practical application, and thus that subject matter is not, in and of itself, entitled

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to patent protection. *Id.* at 1543, 31 USPQ2d at 1556-57. Thus, the Alappat inquiry simply requires an examination of the contested claims to see if the claimed subject matter as a whole is a disembodied mathematical concept representing nothing more than a "law of nature" or an "abstract idea," or if the mathematical concept has been reduced to some practical application rendering it "useful." *Id.* at 1544, 31 USPQ2d at 1557. In Alappat, we held that more than an abstract idea was claimed because the claimed invention as a whole was directed toward forming a specific machine that produced the useful, concrete, and tangible result of a smooth waveform display. See *id.* at 1544, 31 USPQ2d at 1557.

As such, it is apparent that the utility of the claimed invention as a whole must be the subject of the enquiry into the patentability of the claimed inventions under 35 U.S.C. 101. Ignoring those parts of the claim that are drawn to a practical application and only focusing on claim elements that, if they were claimed alone, might be properly rejected under 35 U.S.C. 101, is simply improper.

**Examiner's response:**

Each of the applicant's claims are hereby stated by reference to the amendments of pages 2-27 of the applicant's response dated September 26, 2006. The rationale provided on pages 4 and 5 of the First Office Action, dated May 26, 2006, serve to direct the Applicant's attention to the real cause of the rejection. Other features of such claims simply fail to overcome the statutory limitations. None of the referenced claims set forth a result that is a practical application. First Office Action stands.

**In reference to Applicant's argument:**

Consider claim 1, which is drawn to an associative memory device that includes "an input device for accepting a set or a plurality of sets of input information; one or a plurality of input buffers; a means for transporting the input information to the input buffer . . . one or a plurality of recording structures, referred to as a cortex . . . the output buffer being operable to transform the wave-modeled retrieval into output data; and a means for using control data to provide overall control of the associative memory device." As such, in regards to the first stated rejection under 35 U.S.C. 101, claim 1 as a whole is clear in its purpose or scope. It is simply improper, as explained by the Federal Circuit in *State Street Bank*, *Alappat*, *AT&T*, and numerous other decisions, to create an overly broad, fourth category of [mathematical] subject matter excluded from § 101. The claimed invention of claim 1 as a whole is directed toward forming a specific associative memory device that produces a useful, concrete, and tangible result of wave-modeled retrieval.

**Examiner's response:**

While applicant's abridged claim 1 develops output data, there is no means for developing control data . . . only a means for using output data . . . one cannot use

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something unless that something has been developed ... hence claim 1 is not clear in its purpose or scope. First Office Action applies.

In reference to Applicant's argument:

Likewise, in regards to the second stated grounds for rejection under 35 U.S.C. 101, the Title is cited to support the conclusion that "[w]aves are synonymous with signals and signals are nonstatutory." Not only does rejecting the claims based on the Title fail to comply with the mandate of M.P.E.P. 2107.02 that each claim must be evaluated on its own merits, it defies credulity to suggest that systems that process signals, such as radios, televisions, telephones, radar, satellites, cameras, and numerous other items that have a readily apparent practical application are not patentable simply because they process signals, and because "signals are non-statutory," such widely-patented systems have suddenly become unpatentable.

Examiner's response:

Applicant is invited to review the Interim Guidelines of Patent Application for Patent Subject Matter Eligibility published in the Official Gazette on November 22, 2005 wherein @ Appendix IV (c) the subject of Electro-Magnetic Signals is addressed and identified as nonstatutory. First Office Action stands.

In reference to Applicant's argument:

In regards to the third ground for rejection under 35 U.S.C. 101, the claims are drawn to associative memory devices and a method of autonomous pattern recognition, not to the mathematical formula for wave propagation. The rejection of the claims is based on an improper, overly broad, fourth category of [mathematical] subject matter excluded from § 101, resulting from the failure to examine the claims as a whole.

Examiner's response:

¶ 22 applies. Claim 1, inter alia, states: "the cortex being adapted to associate the desired sets of wave-modeled input data through an invertible mathematical function or operation, thus creating one or a plurality of associations within the cortex."

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Specification @ page 36, line 24 states: "Waves are continuous, analog phenomena."

Specification @ page 19, lines 7 and 8 states: "The present invention uses the propagation of waves for information transport and storage." First Office Action stands.

In reference to Applicant's argument:

In regards to the fourth ground for rejection under 35 U.S.C.101, the Examiner has not made the requisite showing that the claimed invention is undefined, accomplishes nothing if  $C=0$  (if, in fact the claimed invention would even result in the condition that  $C=0$ ), is missing a major step regarding the concept of inevitableness as allegedly admitted by the application, or that the output is independent of the input. For example, again turning to claim 1, the teachings of the specification clearly establish that a situation where  $C=0$  is to be avoided, and is not encompassed by the claims. Furthermore, the Examiner postulates a situation where the weighting factor is infinite to render  $C$  undefined. It is clear that the claims (see, e.g., claims 12, 17, 19, and 20) are drawn to data processing equipment that would be incapable of digitally representing an infinite value. Data processing equipment stores numbers in binary form, such that an infinite number of bits would be required to represent an infinite weighting factor. As such, the rejection of the claims is based on an impossible condition.

Examiner's response:

¶ 22 applies. See First Office Action @ page 3. Applicant admits that  $C=0$  is a possibility; there is no statement in claim 1 that excludes such condition. Cited claims are not restricted to accommodate values that would cause the data processing buffers to overflow generating data that is "garbage" ... result of an infinite or very large values. First Office Action stands.

In reference to Applicant's argument:

The Examiner's analysis of "invertible" is likewise incorrect, and was based apparently on a text search for that term and not on a review of the teachings of the specification as a whole. A search of the specification for roots of the word "invertible" reveals the following passage at paragraph 0080: "Code extraction: During the identification phase, the present invention uses an inverse procedure to extract, as accurately as possible, multiple, redundant copies of the identifier code from a retrieved pattern, or IIP, to make an identification. If the file has not previously been learned by the current invention, then no readable pattern is retrieved by the system." Likewise, the specification states at paragraph 0252 that "Retrieval involves the recall of information and so requires an operation inverse to that for association. If association were done by adding .psi. and .phi., then recall would require subtracting .phi. from .psi.. If multiplication were used, then the inverse operation could be division." As such, the conclusion that the

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specification does not disclose "the How of identifying such invertible mathematical relation" is not a correct conclusion and is based on the failure to consider the claims as a whole, as well as the failure to consider the teachings of the specification as a whole. Withdrawal of the rejection of the claims under all stated bases of 35 U.S.C. 101 is respectfully requested.

**Examiner's response:**

¶ 22 applies. While applicant has not identified the source of the paragraph numbers, such are assumed to be that of the "pre-pub." In reference to Applicant's response dated September 26, 2006, Claim 1 @ lines 10-12 states: "the cortex being adapted to associate the desired sets of wave-modeled input data through an invertible mathematical function or operation, thus creating one or a plurality of associations within the cortex" and at lines 23-25 states: the cortex being operable to cause the wave-modeled prompt to mathematically operate upon the previously stored associations using a de-association operation that is the inverse of that originally used to form the associations." Since applicant states above the "invertible" is synonymous with "inverse," such claims limitations both are using "inverse" mathematical functions which means from the Applicant's above comments that .psi. and .phi. would be added once ... and then added twice ... ??? Examiner maintains that "the How of identifying such invertible mathematical relation" has not been clearly and usefully identified by the Applicant. First Office Action stands.

**In reference to Applicant's argument:**

In regards to the first rejection of the claims under 35 U.S.C. 112, it is stated that the rejection was only applied because of the rejection of the claims under 35 U.S.C. 101. As that rejection is improper, withdrawal of the rejection of the claims under the first stated basis of 35 U.S.C. 112 is respectfully requested. In regard to the second stated basis, as previously described, the term "arbitrary" relates to the claimed invention being able to handle linear combinations of associations are not fixed, and as such

the rejection was improper, but as removal of the term broadens the claims and eliminates a basis for rejection under 35 USC §112, the claims have been accordingly amended.

Examiner's response:

35 USC §101, utility stands and consequently 35 USC §112, first paragraph, stands. See discussions above related to the concern for "arbitrary." First Office Action stands.

In reference to Applicant's argument:

No response was made by applicant regarding ¶ 6. of the First office Action dated May 26, 2006.

Examiner's response:

First Office Action stands.

### ***Examination Considerations***

19. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

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20. Examiner's Notes are provided with the cited references to prior art to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

21. Unless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis and such would be obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie statement.

22. Examiner's Opinion: ¶¶ 19-21 apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense. While the Applicant has removed the term "arbitrary" from the claim set, the concept remains in the specification and influences the interpretation of the claim set under the conditions that the Examiner is obligated to implement..

***Conclusion***

23 Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

25. Claims 1-78 are rejected.

***Correspondence Information***

26. Any inquiry concerning this information or related to the subject disclosure should be directed to the Primary Examiner, Joseph P. Hirl, whose telephone number is (571) 272-3685. The Examiner can be reached on Monday – Thursday from 6:00 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the

Examiner's supervisor, David R. Vincent can be reached at (571) 272-3080.

Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,  
Washington, D. C. 20231;

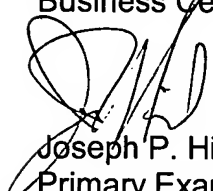
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Joseph P. Hirl  
Primary Examiner

Nov 14, 2006